BREWSENNEW.

New Bealand It is an interesting account of the reform Innovations and experiments recently made In New Zeniandtwhich is offered us in the book called Newset England, by HEVET DEMARKST LLOTD (Doubleday, Page & Co.). The author went to New Zealand, he tells us, to see what had been accomplished by certain political methods in the country wherein those meth-ods have had a trial Unquestionably New the whole list of New Zealand reforms there Is nothing bizarre, nothing that has not the good fortune of the New Zealanders that they could make the history sighed for elsewhere, without making the revolutions for fear of which men do noth ing but sigh Not that the Newest England s no paradise is evident from the fact that honest, industrious people could reach the age of 65, after having lived twenty-five years in the archipelago, and yet need an old age engion. The other day, when the author

Zealand may be looked upon as the "experiment station" of advanced legislation Reforms that elsewhere are only talked about this far-away insular commonwealth has actually attempted It must, indeed, be Pecognized that, of everything done in this ote corner of Australasia, the germs were stored in the older parts of the world. In been outlined in the evolution progressing depicted as a Utopia. That New Zealand of this book was visiting the country, he found the press and the people anxiously discussing a decrease of the birth rate, a decrease manifeetly due to an enonomic pressure which makes people afraid to have children. Then again, it was but a few years ago that the re-ports of the Colonial Secretary of Labor were very gloomy revelations; at that time the streets of the larger towns were swarming at night with young men and women unable So obtain employment. There is, too, a sheep ring, and there is a coal ring, in New Zealand, and there are indications of a timber ring, and, of a combination against the sheep farmer among the great meat-freezing exporters There is not one of the new institutions deal and with land, labor, taxation, finance and government industry which is not acknowibut he submits that, for experimenting, it may be said that, though lame, it still moves. and moves faster in New Zealand than else where. It is not pretended by the inhabi cants of Newest England that they have reached any final "social solution." All they claim is that they have tried to find solutions, and they believe themselves entitled to report progress. In fine, Mr. Lloyd, while not deorthing the New Zealanders as the most civ fliged, the most happy and the most prosperous people in the world, thinks that they may fairly be termed the least uncivilized, the set unhappy and the least disinherited.

Let us begin with a glance at the State system of life insurance. In New Zealand the company that insures the largest num ber of people is the commonwealth itself Any one who wants insurance for the benefit of his family which will be backed up by the good faith and resources of the whole community has only to step to the nearest of the many agencies of the Government insurance department to receive a visit from one of its numerous canvassers. New Zealand owes this novelty to Sir Julius Vogel The life insurance department was proposed to the New Zealand Parliament in 1869, and unanimously adopted Beginning in 1870 with 463 insured persons, the department in 1899 had issued 37.848 policies. The total amount of insurance now outstanding is There have been paid out \$11, 885.410, and the department now has on hand \$14.807.670 The Government's life insurance department transacts practically half of the insurance business done in the colony. The fact that the State is behind every policy has been, of course, a powerful factor in the department's success. Another factor is the wisdom which has freed its policies from all oppressive conditions, though the conditions are not more liberal than those imposed by cert in New York life inthan go to the Treasury, but to the insure ere have been five divisions of profits. the total amount returned to the policyholders having been \$6,877,805. Since 1882 th total abstainers have been insured in a separate class. When the experiment has lasted longer, it will afford material for suggestive imparisons of the health and longevity of drinkers and abstainers. In the division of profits in 1890, the general and temperance nuses were equal. In 1893 the temperance bonuses were a little higher, but in 1896 this state of things was reversed, the general bonuses being better than those of the temperance section. In 1899 the New Zealand | ped as rapidly as they come back to the department added accident insurance to the business of the life insurance department. and put a stop to the private insurance of employees by employers through forced deductions from wages. The department has long had fire insurance business in contemplation, but so far no actual steps have been taken to that end.

Another remarkable, and, indeed, unique institution in New Zealand is the Public Trustee. This creature of law, whom Sir Julius Vogel, its inventor, thought of only as an official depository of papers and a formal agent for the execution of the routine functionary possessed of a personality as well as an officiality which touches the lives of large numbers of persons in hours of grief helplessness and disaster, and applies the ample resources of the State with the discretion and tenderness of a wise friend. People making their wills may leave their property in the hands of the Public Trustee property of those dying without a will is given to him by the courts if those interested do not appear, and frequently they ask him to do the work for them. If the conductor of a great business dies with no relain and keeps everything going until the rightful successors are found and can relieve him.

To the same agent of the people cities of individuals desiring to create a public trust can betake themselves. If a philanthropist desires to carry some generous intention down to posterity, he need spend no anxiety on the problem of how to constitute his board of trustees. The Public Trustee is there, and always will be there, and behind the Public Trustee is the public itself, responsible for his administration to the last dollar The charges made by this official for his different services are all fixed by a public scale, and are very moderate, being intentionally made only large enough to cover the actual expenses of the office. The fame of the Publie Trustee has spread, and people far away in England are placing property in his hands The number of estates administered by him has grown from 1,678 in 1890 to 2,491 in 1899, and the value thereof from \$6,200,485 to \$10,-\$51,581. It is to be noted that one does not have to wait for the Public Trustee to find | property tax to the land and income tax. particular investments for the property placed in his hands. The law provides that the land tax. No landowner whose land is worth department shall at once begin to pay, like a savings bank, a specific rate of interest on the funds deposited. The present rate is 4 per cent, up to \$15,000 and 35; per cent on larger sums. The interest is paid quarterly and is compounded until six years have passed, after which simple interest is paid. We observe, lastly, that the Public Trustee is a Corporation Sole; hence, once he has been appointed trustee of an estate, the trusteeship never becomes vacant, and it is immaterial whether the individual, for the time being holding the office, disappears, resigns or dies, the corporation continues, and as a consequence no expense is ever incurred by an estate in appointing new trustees. In connection with the Public Trustee, there is a Government board of

which he is a member, which otherwise consists of the Colonial Tressurer, the Native Minister, the Solicitor General, the Government insurance commissioners, the Commissioner of Taxes and the Surveyor General As the colony is responsible for the actions of the Public Trustee it seems right that Minlaters of the Crown should have the power to express opinions as to the current business of office, for which reason two Ministers have seate on the board. A further check interposed in the interests of the colonie is the provision that the Colonial Treasurer, and any officer authorized by him, shall have access to all books, accounts, documents and papers in the Public Trust office, and that the Public Trustee shall at all times furnish to the Colonial Treasurer such information as the latter requires An extension of the Public Trustee institution is now being urged by some of the New Zealand Progressives. They propose the installation of Governmen lawyers in every town and village, who shall even in monarchical countries, but it was execute papers and give the people legal advice at fixed minimum charges. All but one or two of the raflways in New

Zealand are owned and or erated by the State.

In 1898 the roads earned 3 per cent over every-

thing but the interest charge on bonds, and, i

the railroad bonds were bearing 3 per cent

interest, as would be the case if they were

refunded, the receipts would show a small

profit. The report for 1900 shows the net

earnings for 1809 to have increased to 3.8 per cent. It should be borne in mind that the State railways in New Zealand are run not for profit but for the benefit of the people The remuneration of the officers and men is fixed by the legislators. On the other hand, the railroad men cannot strike, but must take their grievances, first to their superior officer, then to the Appeal Board, and, in the last resort, to Parliament. Pollticians and officeseekers have been completely shut out from the State railway sys tem by the creation of a civil service board possessed of unusual powers. Railway rates are fixed in New Zealand by the Minister for Railways, but the ultimate power over them is vested in Parliament. The State Railway system knows nothing of the doctrine that a shipper, if the largest, is entitled to the lowest rate; much less of the theory that a railroad manager has the right to give such favoring rates as to make the chipper he prefers the largest, even though he should start as the smallest. Here, as in its land policy the Government deliberately acts upon the principle of favoring the small man. The settler who brings down to the station his one bale of wool gets as low a rate as the company that sends off thousands of bales. Such a thing as a rebate or discrimination is unknown. cussing this matter with one of the railroad officials, Mr. Lloyd asked him what the unit of shipment was in coal. The rates for coal he answered, were made by the ton. "Could a man," asked Mr. Lloyd, "ship 10,000 tons, and get a lower rate than the man "No," was the who shipped 1,000 tons?" answer, "not if he shipped 10,000,000 tons." Children of the primary grades are carried free on the railroads, but not further than the next school. Children who want to go further and those of the higher grades can have season tickets for any distance up to sixty miles, securing, for instance,

a three months' ticket giving transportation to the extent of 120 miles a day for \$2.50 to \$5. according to age. Working people have the same rates for holiday trips as do young school children. The parcel system is singularly cheap. A 7-pound parcel can be sent 80 miles for 12 cents, and to any point in the colony by rail for 25 cents. The rates on large parcels are made relatively high in order that the heavy business may go by freight. Newspaper publishers can send three pounds 25 miles for two cents, and the highest rate for any distance is six cents. A bundle of newspapers weighing 112 pounds may be sent to any point in the colony for 50 cents. Books are taken to and fro between libraries and their subscribers for one-quarter the parcel rates. To help farmers to market their products, fifty-six pounds of fruit and vegetables will be taken any distance for 12 cents. The railroads bring the farmers lime to warm their soil free of charge, and a stallion, broodthe department pays taxes like any other | mare, ram, shepherd dog, or any other doinsurance company, and its profits do not | mestic animal desired for breeding purhere written it is evident that in New Zealand roads are run for service, not for profit, and that there is no room for railway kings in the country. On the other hand, it is acknowledged by the author of the book before us that the railway accommodations in New Zealand are not what would be considered luxurious in the United States; indeed, such as have been provided for the second class cars are primitive in the extreme. We understand, however, that this year all new secondclass carriages were provided with cushions,

repair shops. 11. We pass to the land tax of New Zealand. which is expressly planned to exempt the small owner and to free the struggling poor man. To show how it operates, the Land and Income Tax Commissioner drew up for Mr. Lloyd a schedule. Let us suppose that a piece of improved land is worth \$25,000 and that the improvements on it are valued at \$10,000. It follows that the unimproved value would be \$15,000. The land, including the improvements, is mortgaged for \$15,000. duties involved in trusts, has grown into a In such a case no tax would be levied on the property. Now let us suppose that the land is worth \$85,000 and the improvements \$15,-000. The unimproved value would then be \$20,000. The land and improvements are mortgaged for \$12,500. In such a case, under the New Zealand system, the net value would be \$7,500, and as the exemption is \$2,500 there would be left a taxable value of \$5,000, on which the tax is \$21. The land tax begins to be progressive or graduated when the values reach \$25,000 above improvements. There is no tax on improvements large or

and that all the old ones are to be thus equip-

small, but the privilege of exemption is withdrawn when estates are large enough to be subject to the graduated tax, that is when the unimproved value reaches \$25,000. The larger owner not only pays a larger rate of tax, but loses all of the exemptions, except those for improvements. The extra tax increases by one-eighth of a penny up to a value of \$1.150,000, when the maxi mum is reached of two pence in the pound, or four cents in every \$4.86. This increment, added to the original tax of one penny in the pound, makes a possible maximum of six cents on \$4.86 of value. Thus we see that, even at its heaviest, the New Zealand land tax is not really heavy. The taxes are not destructive; great estates still exist. The worst that can be said of the graduated land tax is that notice has been served on the monopolists that they must surrender or disappear. Under the operation of the system a large number of landowners pay no tax at all. Out of 16,000 small farmers, more than one-half have been relieved of taxation altogether by the change from the Out of 90,000 landowners only 18,000 pay less than \$2,500 net pays any national land tax in New Zealand Another graduated tax in Newest England is that on estates which pass by death. Nothing is demanded of property worth less than \$500, or on estates that descend to widows and widowers. The rate thenceforward up to properties worth \$5,000 net is 2) per cent. It then rises to 3% per cent until limit of \$25,000 is reached, when it becomes per cent. up to \$100,000. On all estates above that the rate is 10 per cent. Before leaving this topic we should note that owners of estates large enough to fall under the grad-

uated tax are further penalized, if absen-

tees; then their graduated tax is increased

cape this tax by periodically returning to

the colony. Mr. Lloyd reminds us that the

20 per cent. Absentees, however, may es-

ntee tag to not an invention of You Bea-In England, some two hundred rears ago, it was enacted that "absentees are to be assessed a double portion on their lands, stocks and cattle." Even in Ireland in the reign of Queen Anne, an absentee tax of six shillings in the pound was put on all office holders who did not live hall of the year in the country. It seems that on the passage of the new taxation laws some of the New Acaiand capitalists undertook to carry out their threat of "leaving the country" extent of refusing to lend. They said to borrowers who sought to renew mortgages. You have elected these labor men, go to them for your money." The result was that they lost their business, for there were others with money to lead who were glad to take the securities

The income tax, as planned and levied in New Zealand, is free from unnecessary publicity. The small man is exempt. He who has an income of only \$1,500 a year pays nothing, and, except in the case of cor porations, that sum is deducted from all incomes before the tax is adjusted. encourage thrift, life insurance premiums up to \$250 annually are also exempt. The rate of the tax is sixpence on the pound up to \$5,000 a year. On all incomes above that amount the rate is double. The income tax in New Zealand yields \$575,000 a year. The smallness of the amount is explained by the fact that no income from land, or from mortgages, or "from the use and produce o land enjoyed by the owner and occupier is taxable under this head. Thus, when a farmer makes a good thing out of butter of his own production, or sells cattle out of his own herds, he is not called upon to pay an income tax on the profits. The ordinary land tax which falls on landed property and mortgages vields \$1,075,000 a year, o which \$450,000 are yielded by the graduated

land tax and absentee land tax.
What part had Henry George in the land tax reforms of New Zealand? The question is suggested by the circumstances, that New Zealand, although obviously not a single tax country, since it still derives 75 per cent of its revenue from the tariff, has made considerable progress in the direction of concentrating taxes upon land. As a matter of fact, the national bias in favor of such taxation dates back of the apostolate of Henry George to the Ministry of Sir George Grey, who in 1878 introduced the land tax into New Zealand finance. Only one collection was made, however, and in the next year the tax was repealed and replaced by the property tax, which was favored by the monopolists. South Australia subsequently adopted the land tax, and has retained it, but allows no exemption. It was not until 1891 that the form of land taxation which we have above described was reintroduced into New Zealand The facts seem to justify the Commissioner of Justice, who assured the author of this book that the New Zealand tax was born before Henry George's ideas were known. It was also pointed out that the land tax now in force is not a "pure land tax. Another authority averred: "Henry George had little influence; he frightened us by the

confiscatory features of his plan. In 1891 Sir George Grey directed attention to the fact that vast areas were held by a few persons who would neither sell nor cultivate, The increasing population surged up against stretches of fertile plain and valley only to find these kept out of the market for the purpose of exacting a suffocation price when the inhabitants of the island should become more crowded. No fewer than 17,937,570 acres were held by only 1,615 landowners, while 100,000 people occupied less than 800,000 acres. Even some years later, Mr. Reeves showed that "in spite of land laws, land tax and time, out of 34,000,000 acres 21,000,000 are held in areas of more than 5,000 acres each. Nevertheless, the number of small holdings shows a steady though not a rapid expansion. In 1895 the whole number f holdings was 46,676. In 1899, there were 62,639 holdings of one acre and upward: out of these, 59 per cent. comprised less than one hundred acres apiece. Only 171/2 per cent. comprehended more than \$20 acres each, and this percentage cluded a large number of extensive tracts held under pastoral leases. In 1868 the land was held by only 5 per cent. of the people. In 1888 the percentage of landowners to population was only one-half per cent. better than it had been twenty years before. to-day only 2 per cent. more of the population owns land than was the case in 1889.

In the New Zealand Government there are three departments which cooperate in the task of transforming tramps into taxpayers. These are the Department of Public Works, the Labor Department and the Land Department. To needy men willing to work they offer the opportunity. They give absolutely nothing el-e. There is not a trace of charity in the transaction. They will help a man if he will help himself, not otherwise He must pay ultimately for everything advanced. Let us mark how the plan works in detail. The Labor Department, through the register it keeps of the needs of employers and employees, and through its connection with the departments of the Government which are the largest employers of labor, can find work if any agency can. The Land Department has charge of the new country roads and the Public Works Department has railroads and bridges and other public works incessantly under construction. starving and homeless man is sent to a private or public employer, as the case may be. The work offered him may be at the other end of the colony, and he may not have a cent with which to pay his fare, or on which to live while going thither. That is no ob-sticle. The Labor Department advances him transportation and even subsistence. It advances, it does not give. If the work promises to be permanent, it advances him transportation for his family. It supplies him and them with orders for meals and beds during their journey. These advances have to be repaid by the man out of his earnings, and the record of the experiment shows but a trifling percentage of loss. If for any reason a man's family does not go with him to the place where employment is offered, the Labor Department makes it part of the contract that it shall retain one-half of his wages, which is transmitted by means of postal notes by the paymaster of the works to the workman's family.

111. New Zealand is a country without strikes because arbitration s by law compulsory The labor legislation of the islands began before the labor party came into power, that is to say, as far back as 1872; even the Conserva-tives, in 1890, just before they permanently lost control of the Government, introduced some new labor measures. The movement was at no time theoretical, but 'ike all the New Zealand reforms, was a response to the pressure of real evils. The country was moving at its ease toward the adoption of the English factory legislation before the popular uprising of 1890, but, after that event, it moved with revolutionary rapidity: and, although it was, spe-cifically, the monopoly of land and money and government that had provoked the upheaval, the remedial measures dealing with the labor question were quite as sweeping as any of the others. When one recalls that the labor measures included compulsory arbitration, compulsory half holidays for shops and factories, a compulsory educational requirement for factory children, the extensive abolition of contractors in public works, a definition of the minimum wage, the institution of a thorough and successful scheme for putting the unemployed on public work, and at the same time making them settlers on the land, it will be admitted that the labor question received an extraordinary amount of attention from a people which could scarcely be called industrial in the usual sense.

It seems that in New Zealand most of the employers like compulsory arbitration. It enables them to make their business arrange-

mente for months or years ahead with cereather, and without the necessity of putting Heres business from one of its harassing annoyances, the perpetual friction will In an address lately made by Mr. Seddon, the Premier of New Zealand, at & gathering of London capitalists interested in mining, one of the strongest points made by him in his effort to encourage the investment f English capital in New Zealand mines was the stability given to business enterprise by the arbitration law "With us." he said. "a strike of the miners is impossible, as it is elso impossible for the owner of a mine to shue down. That is a condition of things which does not prevail anywhere else. There is a safeguard for you. The result has been this: That even the employers, who were the first to object to that legislation, are to-day nost strongly in favor of it, because, where they have strikes of any kind, where there is a large amount of capital invested, the effect that capital being laid up for weeks and of exactions being demanded which the capital could not bear, would be as disastrous as would be to our mining. The law, as it stands now, has prevented disputes, which, if there had been an industrial struggle, must have meant a loss of about a million of pounds sterling to us, a small community; whereas the whole cost of the arbitration proceedings does not amount to £1,000"

When we say that there are no strikes in

New Zealand we are speaking of the fact. not of the law. We mean to say, not that strikes are impossible under the new statute. but that they do not in fact take place. Unorganized workmen are still at liberty to strike. Then, again, there can be no arbitration if all the masters and all the men in a given dispute agree not to appeal to the law. Even organized labor may strike, if it be not registered under the statute. If it be registered, it may withdraw by giving three months' notice. The broad fact remains that organized labor does register, does not withdraw and that neither it nor unorganized labor strikes. The only country in the world here there have been no strikes or lookouts for five years is the only country in the world that has a compulsory arbitration law. That country is New Zealand, which to-day is not only more prosperous than it ever was be tore, but is, so far as our author's observation roes, the most prosperous country on earth. The fact that there was no panic in 1893 in New Zealand, whereas the Australian colonies were threatened with shipwrock, and that in New Zealand in 1897 there were gains in banking deposits, imports, exports and public revenue as compared with 1891, whereas during the same period New South Wales experienced heavy losses in all four respects. and Victoria in all but one. namely, imports -this fact, we say, may be coupled with the other fact just mentioned, that there has not been a strike or lookout in Newest England for five years, as two of the most notable achievements in the history of this remarkble country.

We observe, finally, that New Zealand the first country, and, so far, the only country o pay old-age pensions out of the proceeds of general taxation. In Germany the State contributes only a part of the funds from which pensions are paid. In Denmark the payment of old-age pensions was begun 1892; but there also the funds are contributed only by a part of the nation, for they are obtained from drinkers through a tax on been In Denmark the total abstainers do not paricipate in this measure of justice or generosity, except so far as they make non-abstainers pay for it. Woman suffrage had come in New Zealand almost without notice and without agitation. A slightly larger percentage of women than of men exercised the right of voting, and it was due to woman's influence on legislation that, when the Old Age Pension law was framed, the stipend of an old-age pensioner convicted of drunk-enness or other minor offences was not forfeited, but made payable to his wife or to a guardian. The opposition to the Old Age Pension bill was the most determined, not to say virulent, that has been encountered by any of the advanced proposals of the present New Zealand administration during its ten The opponents of the measure vears of office. strove to defeat it by insisting that the pension should be confined to beneficiaries who had themselves contributed to the fund. The Government, on the other hand, maintained that the money for old-age pension must be taken out of the consolidated revenue, to which, as a matter of fact, every taxpayer contributes. The bill became a law in 1898 by a vote of 25 to 15. The law was limited to three years, inasmuch as it was recognized that such an innovation might by that time need amendment. The overwhelmingly Liberal cast, however, of the new Parliament which met this year Under this made reenactment certain. statute, any one over 65 is entitled to a pension who possesses the qualifications specified.

Within certain limits of time there must have been no dishonorable imprisonment, no desertion of husband or wife or children, and for the last five years there must have been a sober and reputable life. The Denmark law separates the deserving poor from the unde serving poor. The title of the New Zealand act is also limited to "deserving persons;" but the New Zealand interpretation of the phrase is much more generous than is Denmark's. In Denmark no one who has ever undergone sentence for any dishonorable transaction or whose poverty is caused by his having been a spendthrift or who has received poor relief, can obtain a pension. New Zealand, on the other hand, forgives the sins of the thriftless, the vicious and the criminal, if these are not of recent date. In Newest England to be poor evidently constitutes the largest part of the qualification described as "deserving." In New Zealand, however, as in Denmark, a pension is forfeitable. It is absolutely forfeited upon conviction for twelve months or more for any offence "dishonoring in the public estimation," or for conviction of habitual drunkenness. We add that the pensions are awarded only for a year. At the end of each twelvemonth the pensioner must again make application and must undergo examination. There can be no doubt that this ordeal annually repeated keeps away some of the more sensitive. The Old-Age Pension law came into force Nov. 1, 1898. The total number of pensions granted

up to March 31, 1899, was 7,487, representing a yearly payment of \$640.410. The average pension is about \$85.50. The number of pensioners is certain to increase and the disbursements are certain to grow larger, but the New Zealand Government looks forward without apprehension to such an outcome of the act. There is no doubt 'that the Old-Age Pension law has captured the heart of Newest England. It is the most popular of all the advanced measures of the last ten Huxley's Life and Letters FIRST ARTICLE.

There have been since his death several provisional estimates of Huxley's place among English scientists, but longevity will belong to the Life and Letters of Thomas Henry Huxley by his son, LEONARD HUXLEY (Appletons). The preface of the American edition of this work points out what is undoubtedly true, that a particular relationship existed between this English writer his essays found in the United States an eager audience, which, above all things, appreciated his directness and honesty of purpose and the unflinching spirit with of knowledge, but also of scholars."
which he pursued the truth. Whether or Within a month of landing in not, as some affirm, the American public "discovered" Mr. Herbert Spencer, it responded at once to the influence of the younger evolutionary writer, whose wide and exact knowledge of nature was but a stepping stone to his interest in human life and its problems. When, ultimately, he came to lecture in the United States, and made him-

self personally known to his many readers,

welcome comparable, as was said at the time, to a royal progress. Huxley's interest in the actual progress of the American Republic and in the possibilities of its future was always keen, not merely as touching the development of a vast political force, but far more as concerning the character of its approaching greatness. Huge territories and vast resources were of small import to him in comparison with the use to which they should be put. None felt more vividly than he that the true greatness of a nation would depend upon the spirit of the principles it adopted upon the character of the individuals who make up the nation and shape the channels in which the currents of its being wil

In the preface to the English edition, the author points out that his father's life was one of so many interests and his work was at all times so diversified that, to follow each thread separately, as if, for a time, he had been engaged on that alone, would be to give false impression of his activity and the peculiar character of his labor. All through his active career he was equally busy with esearch into nature, with studies in philpeophy, with teaching and administrative work. The real measure of his energy can only be found when all these are considered together. Without such a comprehensive view there can be no conception of the limitations imposed upon him in his chosen life's work. The value of his researches is magnified when we consider the smallness of the time allowed for it. Great, however, as was the impression left by these researches in purely scientific circles, it was not by them alone that he made his imprint upon the mass of his contemporaries. The latter were chiefly moved by something over and above his wide knowledge in many fieldsthey were moved by his passionate sincerity, his interest not only in pure knowledge, but in human life, his belief that the interpretation of the book of nature was not to be kep apart from the culminating problems of existence: in fine, his love of truth, both theoretical and practical, which gave the key to the man's character.
We add that the author of this book has

striven to make his own part in the narrative entirely impersonal. So far as it was possible, he has made Huxley's letters, or extracts from them, recount the story of the scientist's life. He has confined himself to supplying the necessary thread of biographical connection.

Thomas Henry Huxley was born in 1825 at Ealing, which was then as quiet a country village as could be found within a dozen miles of Hyde Park corner. He was the son o George Huxley, senior assistant master at Ealing School, and Rachel Withers; he was the seventh and youngest surviving child In his brief autobiography the scientist wrote: "Physically I am the son of my mother so completely, even down to peculiar movements of the hands, that I can hardly find any trace of my father in myself, except an nborn faculty for drawing and the tenacity of purpose which unfriendly observers someimes call obstinacy." He adds: "My mother was a slender brunette of an emotional and energetic temperament and possessed of the most piercing black eyes I ever saw in a woman's head. Her most distinguishing characteristic was rapidity of thought. If one ventured to suggest that she had not taken much time to arrive at a conclusion, she would 'I cannot help it; things flash across That peculiarity has been passed on to me in full strength. It has often stood me in good stead. It has sometimes played me sad tricks, and it has always been a danger but, after all, if my time were to come over again, there is nothing I would less willingly

The amount of instruction which Thomas Huxley received in youth was scanty in the extreme. For a couple of years, from the age of 8 to 10, he had a taste of the unrermed public school life at the Ealing estabishment. Subsequently, he got little or no egular education, though he read everyhing he could lay hands upon in his father's library. He began early to teach himself German, and thus became acquainted with the advance of biological investigation at a time when few Englishmen of science were

part with than my inheritance of mother

able to follow it at first hand In 1839 both of Thomas Huxley's eisters married doctors, and it was now arranged that he should become an assistant to Mr. Chandler of Rotherhithe, a practical preliminary to walking the hospitals and obtaining a medical degree in London. After some time he left Mr. Chandler to join Dr. Scott, one of his brothers-in-law, who had set up in the north of London, to whom he was duly apprenticed. He now attended lectures at the Sydenham College and began to prepare for the matriculation examination in the University of London. In October, 1842, he began a hospital course in Charing Cross Hospital, having obtained one of the free scholarships offered by that institution. In 1843 he won the first chemical prize and also the first prize in the class of anatomy and physiology. Finally, in 1845, he went up for his M. D. at London University and won a gold medal for anatomy and physiology, being second in honors in that section. He then secured an appointment in the navy and was detailed as assistant surgeon to the Rattlesnake, bound on a four years' cruise. It is a curious coincidence that, like two other eminent scientists, Charles Darwin and Joseph Dalton Hooker, their close friend Huxley began his scientific career on board one of her Majesty's ships. Throughout the four years' cruise, three-fourths of which was in Australian waters, Huxley was busy with his pencil, and many lithographs from his drawings were afterward published. As to his scientific work, he accumulated a large stock of observations, but felt rather sore about the papers which he sent home, for no word reached him as to their fate. though, as a matter of fact, they had not

been neglected.
The Rattlesnake reached Plymouth on Oct. 28, 1850. In the Huxley lecture for 1898 Prof. Virchow takes occasion to speak of the effect of Huxley's service in this ship on his intellectual development: Huxley himself left Charing Cross Hospita. in 1846 he had enjoyed a rich measure of instruction in anatomy and physiology. Thus trained, he took the post of naval surgeon, and by the time that he returned, four ears later, he had become a perfect coologist and a keen-sighted ethnologist. How this was possible any one will understand who knows from his own experience how great the value of personal observation is for the development of independent and unprejudiced thought. For a young man, who, besides collecting a rich treasure of positive knowledge, has practised dissection and the exercise of a critical judgment, a long sea voyage and a peaceful sojourn among entirely new surroundings afford an invaluable opportuntly for original work and deep reflection. Freed from the formalism of the schools, thrown upon the use of his own intellect, compelled to test each single object as regards properties and history, he soon forgets the dogmas of the prevailing system, and becomes first a sceptic and then and his transatlantic readers. From the an investigator. This change, which did time that his "Lay Sermons" was published | not fail to affect Huxley, and through which arose the Huxley whom we commemorate to-day, is no unknown occurence to one who is acquaint ed with the history, not only

Within a month of landing in England Huxley had secured his footing within the scientific world. He was freed for the time from the more irksome part of his profession; his service in the navy had become a stepping stone to the pursuits in which his heart really was. He returned from his long cruise to discover that his work had placed him in the front rank of naturalists. In the scientific world he soon made acquaintance with most of the leading men, including Hooker

fluence previously sequired which made his and Tyndall. From a worldly point of view, however, it is clear that seisnes was unneet of earning enough on which the lady whose acqueintance he had made Australia To bis great astonishment, on June 6, 1851, he was made a bellow of the Royal Society, a token of present success and an augury of grouter triumphs in the future. He was now but 26 years old, yet he found himself treated as an equal by men of established reputation; the first fruits of his work were ranked on a level with maturer efforts of veterans in science. In the following year he received the Royal Medal, annually awarded to the author o the best paper upon either a physical, chemical, enatomical or physiological subject. It is a certificate of merit which men like Owen and Faraday had been glad to get, and it is, in truth, one of the highest honors dispensed

> In March, 1861, Huxley resigned his post of Assistant Surgeon in the navy, and expected consequences followed. As long as he was in the navy, with direct claims upon a Government department for assistance in publishing his work, the Royal Society had not felt justified in allotting to him any part of the Government grant. Now that he had left the service, this objection was removed, and, in the following June, the sum of £300 was assigned for the purpose, while the remainder of the expense was borne by the Ray Society. The first professorship which Huxley tried for was the newly instituted chair of zoology at the University of Toronto. The vacancy was advertised in the summer of 1861, and the pay of £300 a year seemed to him enough to marry on. remarkably strong set of testimonials from all the leading anatomists and physiologists in the United Lingdom, as well as one from Milnes-Edwards in Paris. Nevertheless, after many postponements, a near relative of an influential Canadian politician was appointed late in 1853. By an amusing coincidence, Huxley's newly made friend, Tyndall, was a candidate for a chair at Toronto, and was likewise rejected. Huxlev's hopes of the colonies failing, he tried each of the divisions of the United Kingdom in turn, with uniform ill-success-in 1852-53 at Aberdeen; in 1853 at King's College, London, These repeated disappointments deepened the fits of depression which constantly assailed him. It was minor addition to his many troubles that, after a time. Buxley found a grudging and jealous spirit exhibited in some quarters toward his success and an influence used to prevent any further advance that might endanger the existing balance of power in the

scientific world. 11. The year 1854 marks the turning point in Huxley's career. The desperate time of waiting came to an end. By the help of his lectures and his pen he could, at all events stand and wait independently of the navy. He could not, of course, think of asking his flancee, Miss Heathorn, to join him in England, but it so happened that her father was already thinking of returning home, and, finally, this was determined on just before Prof. Forbes's ranslation to a chair at Edinburgh gave Huxley what turned out to be the long hoped for permanency in London. On July 20, 854, the temporary work which Huxley had undertaken as a friend of Forbes was exchanged for one of the permanent lectureships formerly held by the latter. A hundred pounds a year for twenty-six lectures
was not affluence, but it was the crossing of
the Rubloon, and, strangely enough, no sooner
had Huxley gained this success than the salary
of the lectureship was doubled. Furthermore,
on Aug. 11 of the same year, he was intrusted
with the coast survey investigation under
the Geological Survey, and remunerated by
fees until March 31, 1855, when he was ranked
as Naturalist of the Survey with an additional salary of £200, afterwards increased to
£400, "rising to £500 per annum," as the official statement put it. Then in quick succession he was offered a lectureship on comparative anatomy at St. Thomas' Hospital,
and in September he was asked to lecture
for the science and art department at Mariborough House. Now, therefore, with the
Heatherns coming to England his plans and
theirs exactly fitted, and he got married as
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of eclence new began to find recegnition from scientific scoleties abroad in the line was elected honorary member of the Microscopical Society of Chessen, and in the same year of a more important body, the became a Fellow of the Linnean, and it the following month, not only Fellow, by Secretary, of the Geological Society, the same year he was chosen a member of the Athensum Club, under the full which the Athensum Club, under the full which the committee shall elect year a limited number of persons distinguished in art, science or letters.

in sevember, 1988, the "Origin of Species" was published and a new direction was given to Huziey's activities. Ever since Darwin and Wallace had made their joint communication to the Linnean Society in the praceding July, expectation had been rife as to the forthcoming book. Huxiey was one of the few privileged to learn Darwin's argument before it was given to the world; neverthalment as it was of a long accumulated mass of notes, took him by surprise. Before this time he had taken up a thoroughly agnostic attitude with regard to the species question, for he could not accept the creational theory, yet sought in vain among the transmutationists for any cause adequate to produce transmutation. He had had many take with Darwin, and though ready enough to accept the main point, maintained such a critical attitude on many another, that Darwin was not by any means certain of the effect the published book would produce upon him. Darwin was the more anxious, as, when he first put pen to paper, he had fixed in his mind three judges by whose decisions he determined mentally to shide. These three were Lyell, Hooker and Huxley. If these three came round, parity through the book and parity through their own reflections, he could feel that his conclusions were well founded. "No one," wrote Darwin on Nov. 18, 1859, "has read it except Lyell, with whom I have had much correspondence. Hooker thinks him a complete convert, but he does not seem so in his letters to me; yet, evidently he is deeply interested in the subject. And again: "I think I told you before that Hooker is now a complete convert. He began to prevain as to the logical completeness of the theory. Huxley I shall be content."

As a matter of fact, with one or two reservations as to the logical completeness of the theory. Huxley I shall be content. "He began to prepare the way for the acceptance of the theory of evolution by discussing one of the most obvious difficulties, namely, How is it, If evolution is ever pregressive, progress is not universal? It was a point

"Origin of Species," this was the most heated, the most surrounded by prejudice and rassion. To touch it was to court attack; to expose oneself to endless scorn, ridicule, misrepresentation, abuse, almost to social ostracism. The facts were there, however; the structural likenesses between the apes and man had been already shown; and, as Huxley warned Darwin, "I will stop at no point so long as clear reasoning will carry me further." We also find Huxley compating some of the difficulties in the way of accepting Darwin's theory that had been outlined by Sir Charles I yell. The veteran geologist and been Dartheory that had been outlined by Sir Charles I yell. The veteran geologist and been Darwin's confidant from almost the beginning of his speculations; he had really paved the way for the evolutionary doctrine by his own proof of geological uniformity, but he shrank from accepting it, for its inevitable extension to the descent of man was repugnant to his feelings. Nevertheless, he would not allow sentiment to stand in the way of truth, and, after the publication of the "truth, under the publication of the "truth, and, after the publication of the "truth, and truth, an not allow sentiment to stand in the way of truth, and, after the publication of the "tricin," it could fairly be said of him by huxley, "Lyell, un to that time a pillar of the antitransmutationists (who regarded him, ever after, as Pallas Athene may have looked at Dian after the Endymion affair, declared himself a Darwinian, though not without putting in a serious caveat. Nevertheless, he was a tower of strength, and his courageous stand for truth as against code.

Lego, "rising to £600 per annum," as the official statement put it. Then in quick succession he was offered a lectureship on comparative anatomy at St. Thomas' Hospital, and in September he was asked to lecture for the science and art department at Mariborough House Now, therefore, with the Heathorns coming to England his plans and theirs exactly fitted, and he got married as soon as they came over, early in the following summer. Meanwhile, in December, 181, a chair at the University of Edinburgh was practically offered to him, but, by that time, the London authorities thought they had better make it worth his while to stay in the metropolis. In the following year he was again approached from Edinburgh, but his position in London was now established, and he preferred to live thereon a bare sufficiency rather than to enjoy a larger income away from the centre of things.

Up to his appointment as a lecturer at the School of Mines, Huxley's work had been almost entirely merphological, dealing with the invertebrates. After 1834, however, palwondong and administrative work began to claim much of the time he would will-ingly have bestowed upon distinctly zoological research. His lectures on natural history demanded, of course, a good deal of first-hand investigation; and not only occasional notes in his fragmentary lournals, but a vast mass of drawings now preserved at South Kensington, attest the amount of work he exception, however, of the Hunterian lectures and the control of the subject, I wrote the article faster, I think, than anything I many life, and sent it to Mr. Lucas, who duly prefixed his opening sentences.

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